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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/895,524	06/28/2001	Rafael A. Mena	TI-29612	8193
23494	7590	10/26/2004	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED			FOURSON III, GEORGE R	
P O BOX 655474, M/S 3999			ART UNIT	
DALLAS, TX 75265			PAPER NUMBER	

2823

DATE MAILED: 10/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/895,524	<b>Applicant(s)</b> MENA ET AL.	
	<b>Examiner</b> George Fourson	<b>Art Unit</b> 2823	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

The finality of the office action mailed 5/19/04 is withdrawn due to the inadvertent omission of rejections of pending claims. The omitted rejections are included below.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1,3,5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in combination with Ngo et al and Yao et al.

The rejection is maintained as stated in the paper mailed 5/19/04.

Applicant argues that there is no disclosure in the references of forming both a HDP liner layer having sloped edges as recited and a gap-fill layer over the liner layer. However, Ngo et al discloses formation of HDP oxide 50, which is an HDP liner layer, and gap fill layer formed using TEOS over the layer 50 (col.5, lines 13-17).

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in combination with Ngo et al '263 and Yao et al '564 as applied to claims 1,3,5 and 12 above, and further in view of the following comment.

One of ordinary skill in the art would have been led to the recited gate thickness, and thereby the recited angle of inclination of the surface of the gap-fill layer through routine experimentation to achieve a desired device density and desired device properties on the finished wafer.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in combination with Ngo et al '263 and Yao et al '564 as applied to claims 1,3,5 and 12 above, and further in view of Bothra et al '102.

Bothra et al is applied as stated in the paper mailed 8/29/03 as providing motivation to enable the formation of liner layer 14 of the process of the combination to be performed according to the teachings of Bothra et al.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in combination with Ngo et al '263 and Yao et al '564 as applied to claims 1,3,5 and 12 above, and further in view of Aug et al.

Aug et al is applied as stated in the paper mailed 8/29/03 as providing motivation to enable the formation of liner layer 14 of the process of the combination to be performed according to the teachings of Aug et al.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in combination with Ngo et al '263 and Yao et al '564 as applied to claims 1,3,5 and 12 above, and further in view of Tsai et al.

Tsai et al is applied as stated in the paper mailed 8/29/03 as providing motivation to enable the formation of liner layer 14 of the process of the combination to be performed according to the teachings of Tsai et al.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in combination with Ngo et al '263 and Yao et al '564 as applied to claims 1,3,5 and 12 above, and further in view of Wolf.

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Wolf is applied as stated in the paper mailed 8/29/03 as providing motivation to enable the formation of liner layer 14 of the process of the combination to be performed according to the teachings of Wolf et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Fourson whose telephone number is (703) 308-2544. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri, can be reached on 703-571-1855. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



George Fourson  
Primary Examiner  
Art Unit 2823

GFourson  
October 21, 2004